



# **Patch 30 DICOM Maintenance II Patch Description**

**VISTA Imaging  
MAG\*3.0\*30  
September 2004**



**Patch 30 Patch Description**  
**August 2004**

**Property of the US Government**

No permission to copy or redistribute the software described in this document is given. Use of unreleased versions of this software requires the user to execute a written test agreement with the **VISTA** Imaging Development Office.

This is a controlled document. No changes to this document may be made without the express written consent of **VISTA** Imaging Development Office.

While every effort has been made to assure the accuracy of the information provided, this document may include technical inaccuracies and/or typographical errors. Changes are periodically made to the information herein and incorporated into new editions of this document.

Product names mentioned in this document may be trademarks or registered trademarks of their respective companies, and are hereby acknowledged.

**VISTA** Imaging Software Design & Development  
Department of Veterans Affairs  
1335 East-West Highway 3<sup>rd</sup> Floor  
Silver Spring, MD 20910  
(301) 734-0100

**Revision Table**

Rev	Date	Notes
1.0	6/28/2004	Initial draft
1.1	7/01/2004	Update for Release
1.2	8/25/2004	Update for Release
1.3	9/28/2004	Update for release
1.4	10/18/2004	Update for release

# Contents

---

<b>Patch 30 Overview .....</b>	<b>5</b>
Terms of Use .....	5
Associated Patches .....	5
Test Sites .....	6
NOIS Entries .....	6
<b>Patch 30 Changes .....</b>	<b>8</b>
Patch Changes.....	9
Specific changes .....	9
IR # 100 Do not display password when connecting to routing share .....	9
IR # 101 Evaluator uses ^TMP instead of ^XTMP for semaphore information .....	9
IR # 102 <UNDEF>RADLKUP+80^MAGDRPC3.....	9
IR # 103 Broker API sometimes transmits too many actual parameters .....	10
IR # 104 Install program aborts when spaces occur in path name .....	10
IR # 105 Do not issue fatal error on attempt to delete non-existent file .....	10
IR # 107 Load-Balanced image files are not transmitted .....	10
IR # 074 Error Trap Not Terminating.....	10
QA # 001 Remove obsolete data dictionaries.....	10
QA # 003 RPC definitions not always consistent with actual code .....	11
P30#01 Change the name of the abstract maker to be consistent with the rest of imaging .....	11
IR # 110 The name of the C-Store icon file is misspelled .....	11
IR # 111 There is vestigial code that may display a password .....	12
P30#02 Routine MAGDEXC3 is still part of the code, as ACR/NEMA is no longer supported, it should no longer be called .....	12
P30#03 The install program should always register comctl32.ocx (whether or not it is already present on the target system) .....	12
P30#04 The install program should also create telnet-icons for the Routing-related menu options .....	12
P30#06 Issue with routing rules containing a date/time valued parameter. ....	12
P30#14 <UNDEF>FINDFILE+35^MAGFILEB:1, (variable MAGREF).....	12
P30#15 "Empty" values in arrays returned from RPCs are ignored .....	12
P30#16 When a site has many sub-locations, the list with choices scrolls off the screen.....	12
P29#1 Typo in name of variable causes line-item to be omitted .....	13
P30#17 In menu option 4-2-2 (Update Gateway Configuration Parameter)some of the help-texts refers to 4-1-6, and should be 4-2-10 (Validate Access/Verify Codes for Modality Worklist).....	13
P29#2 Limit versions of DICOM Gateways to those being used over the past 30 days .....	13
P29#4 When traversing a FileMan table, loop across all numeric values.....	13
P30#18 No icon is generated for "Start all DICOM Gateway functions" .....	13
P30#19 <UNDEF>CLIENT+25^MAGDGLC .....	13
P30#20 MSM cannot handle TCP/IP-address string > 30 characters .....	13

P30#22 RPC error when no valid entries in SCU_List.dic .....	13
P30#24 Error message "Cannot establish identity of sending institution" when attempting to start Routing Transmitter.....	14
P30#25 <SBSCR>PASS1+33^MAGDMFB3 .....	14
P30#26 Support organization received e-mail messages from postmaster@unknown.va.gov.....	14
P30#09 <UNDEF>MISMATCH+4^MAGDIRVE .....	14
P30#27 A warning needs to be issued when Routing is configured to be active, but is not being used. ....	14
P30#21 A warning needs to be issued when the login program cannot complete because of an error on the VISTA side during login. ....	15
P30#28 VISTA may time out while waiting for completion of a HL7 message. ....	15
IR # 046 Patient Demographics .....	15
P30#30 Missing parameter in RPC Call (MAG DICOM TEXT AUDIT GET). ....	15
P30#31 Line Feed Missing in MAGDWLP2 .....	15
P30#32 M2M Broker disruption during Exam Complete processing. ....	15
P30#39 SSN may occur in several possible HL7 segments.....	16
P30#07: Patch 11 was supposed to contain 2 security keys. The KIDS package for patch 11 did not contain these keys. ....	16
IR#108: Some abstracts cannot be displayed using DICOM Viewer.....	16
P30#34 FileMan cannot display field 36 of file 2006.575.....	16
P30#33 Routing does not auto-purge .....	16
P30#36 Process Text Messages does not automatically restart when VistA is restarted .....	16
P30#38 Rule evaluator crashes as result of typo in Routing Rule.....	16
P30#40 Tilde in value for RACE.....	16
P30#41 Imprecise value in Date of Birth.....	17
P30#42 100% CPU usage when VistA aborts .....	17
P30#45 <MODER> in DICOM Echo Request.....	17
P30#46 Set HL7 pointer to a value for which no entry exists .....	17
P30#50 MultiFrame Image cannot be processed .....	17
P30#51 Modality varies number of bits per pixel .....	17
P30#52 FileMan shows only first 15 candidates .....	17
FUT 45 – Combination 8/16 bit images from instruments.....	17
Patch 30 Content .....	18
Remote Procedure Calls: .....	18
Data Dictionaries: .....	19
Routines: .....	19
Patch 30 Installation.....	22
Installing the KIDS Package.....	22
DICOM Gateway Installation .....	23

## Patch 30 Overview

---

This document describes the changes made in Patch 30 the DICOM Gateway Maintenance II patch. **DICOM** is the abbreviation for the **D**igital **I**maging and **C**ommunications in **M**edicine standard. DICOM brings open systems technology to the medical imaging marketplace and enables **VISTA** to communicate directly with commercial medical imaging equipment. This patch resolves a number of issues. Some were deferred while testing patch 11, some were encountered shortly after the release of patch 11, and some are related to other functionality in the Imaging Product.

**NOTE** All sites running *VISTA* Imaging 3.0 that have implemented DICOM Gateways must install both the KIDS portion on their *VISTA* system and the client portions of this patch on all relevant client systems.

### Terms of Use

FDA regulations require that each Imaging software distribution is documented and tracked by the **VISTA** Imaging project.

To receive this patch, sites must have a Site Agreement filed with and approved by the **VISTA** Imaging Group.

For information about the status of a Site Agreement, contact the **VISTA** Imaging Distribution Manager via phone (301-734-0357) or email ([Kathy.Trombetta@med.va.gov](mailto:Kathy.Trombetta@med.va.gov)).

### Associated Patches

Imaging patch MAG\*3.0\*11 and MAG\*3.0\*40 are required patches before Patch 30 can be installed. The following are all *Vista* Imaging patches released and listed in chronological order. The list indicates the patches on the *Vista* Server and the patch requirement for the DICOM Gateways.

Patch	VistA	DICOM Gateway
MAG*3.0*1	Yes	(Included in Patch 11)
MAG*3.0*6 (Client Software)	N/A	N/A
MAG*3.0*7	Yes	(Included in Patch 11)
MAG*3.0*16	Yes	N/A
MAG*3.0*9	Yes	(Included in Patch 11)
MAG*3.0*17	Yes	N/A
MAG*3.03*2	Yes	N/A
MAG*3.0*26	N/A	(Included in Patch 11)
MAG*3.0*23	Yes	N/A
MAG*3.0*28 (Information only)	N/A	N/a
MAG*3.0*27	Yes	N/A
MAG*3.0*25	Yes	N/A
MAG*3.0*22	Yes	N/A

MAG*3.0*24	Yes	N/A
MAG*3.0*21	Yes	(Included in Patch 11)
MAG*3.0*10	Yes	(Included in Patch 11)
MAG*3.0*36	Yes	(Included in Patch 11)
MAG*3.0*3	Yes	(Included in Patch 11)
MAG*3.0*11	Yes	(Included in Patch 11)
MAG*3.0*29	Yes	N/A
MAG*3.0*32 (Client software)	N/A	N/A
MAG*3.0*33	Yes	N/A
MAG*3.0*15	Yes	N/A
MAG*3.0*40	Yes	Yes
MAG*3.0*8	Yes	Yes

## Test Sites

The following sites are test sites for this patch:

Columbia, SC  
Fayetteville, NC  
Loma Linda, CA  
Houston, TX  
Tampa, FL

## NOIS Entries

The following National Online Information System (NOIS) entries are addressed in this patch. Each entry is mapped to the specific software modification that addresses the reported problem.

NOIS	FIX	Description
HUN-0504-21874	IR11#101	Patch 11 - Evaluation Processor Problem
HOU-0604-70933	IR11#102	Error 1 in MWL query
HOU-0604-70936	IR11#102	Another error at the same label radlkup+80
HUN-0404-21414	IR11#102	<UNDEF (ECODE)>RADLKUP+80~MAGDRPC3:3 in Error Trap
MUS-0504-71591	IR11#102	<UNDEFINED>RADLKUP+80~MAGDRPC3
NCH-0604-40409	IR11#102	ERROR IN MAG DICOM LOOKUP RAD STUDY
TAM-0504-31452	IR11#102	<UNDEF (ECODE)>RADLKUP+80
CIN-0504-41164	IR11#104	Assist with MAG*3*11
CTX-0504-71448	IR11#104	Issues installing Imaging patch
ECH-0504-51948	IR11#104	Requesting assistance with install of patch 11

FAV-0504-70570	IR11#104	Patch 11 problems with Text Gateway
PHI-0504-21968	IR11#104	Assist with MAG*3*11
PRE-0504-61375	IR11#104	Gateway DICOM install not loading
PRO-0604-10477	IR11#104	Image Gateway crashed. We are filmless
REN-0504-60480	IR11#104	Patch 11 Gateway Install
UNY-0604-10202	IR11#104	Cannot install T72 (patch 11) on gateway
DAN-0604-41100	IR11#105	Magdir71
DAN-0604-41101	IR11#105	MagDIR71 Error message
ELP-0504-70721	IR11#109	Dig1 has a m-to-m broker error.
PRO-0504-11116	IR11#109	Imaging server stuck in loop
BHS-0604-11135	IR11#110	PATCH 11
CON-0604-10408	P30#07	PROBLEMS WITH DICOM FIX
HUN-0404-21849	P30#09	Process DICOM Image Error
POR-0604-50611	P30#10	Request assistance to set up AUTO-ROUTING using DICOM Store
MIW-0504-41706	P30#11	Problem starting text gateway after patch 11
MUS-0504-71883	P30#14	<UNDEFINED>FINDFILE+3~MAGFILEB
WBP-0504-21237	P30#17	PATCH 11 Access/Verify code
MAD-0504-41541	P30#20	Problems installing patch 11
MEM-0504-71323	P30#20	Can't change domain in gateway parameters while load
CMS-0504-30853	P30#21	Problems with Imaging patch installation
MEM-0504-70575	P30#21	MSM error while loading patch 11
WPB-0504-31218	P30#21	Problem installing patch 11
HWH-0504-41630	P30#24	Routing processor stopped functioning
ATG-0504-31981	P30#28	Many Health Level 7 (HL7) data errors since patch 11
BIR-0504-32137	P30#28	Error: Bad HL7 Message
DUR-0504-31736	P30#28	Problems with Patch 11 install
LEB-0504-21429	P30#28	DICOM gateway executable problem
OKL-0504-71898	P30#28	Patch 11
STX-0604-70527	P30#28	TEXT GATEWAY DISCONNECT
ELP-0404-71851	P30#29	Error on gateway using patch 11.

NOL-0504-71967	P30#29	DICOM Process Error with Patch11 & XP
PHO-0504-62054	P30#29	DIG4 errors with Broker Error. Can't clear.
PHO-0604-60106	P30#29	Error message on DIG 3 gateway
BED-0604-10364	P30#30	Imaging MAG*3*11
MAD-0504-41775	P30#30	Text Gateway question after patch 11
PHI-0504-21988	P30#30	No stats on text gateway
TNV-0604-30904	P30#30	Daily Text Gateway Error Message
CPH-0604-40476	P30#31	Login Error on Gateway
COS-0504-41635	P30#32	Images from GE PACS are not coming across
CAH-0604-30344	P30#33	Problem with routing
HUN-0604-20019	P30#33	Routing location RE POCA
LIT-0604-70562	P30#34	Failed DICOM Image file 2006.575 DD
HOU-0604-70507	P30#37	Dig's down for 2 hours nightly
HWH-0504-41467	P30#37	Process DICOM picking up Mailman Message
LIT-0604-70647	P30#37	Gateways Stop processing after data collection
CTX-0604-71283	P30#37	Text gateway is not operational during certain period
HWH-0504-41467	P30#37	Process DICOM picking up Mailman Message
TNV-0604-31379	P30#38	Routing Evaluation Process Stops
DAY-0604-41808	P30#39	" Color Multiframe breakup failed due to image palette errors, then on restart the bit cannot be cleared"
CAH-0604-31630	P30#39	See error trap in Greg's message to Peter for details.
ELP-0404-71851	P30#39	In patient name caused the processing to error out.
NOL-0504-71967	P30#39	Multiframe breakup error - NOIS does not include error trap
HWH-0604-40425	P30#39	Multiframe breakup error - NOIS does not include error trap

## Patch 30 Changes

---



## Patch Changes

Patch 30 contains a number of fixes and enhancements. The sections below describe the changes made to address the various issues. The various entries below each contain an identifying tag that shows the origin of the issue:

- IR numbers relate to Incident Reports that were filed for Patch 11 and deferred to “a future patch”.
- QA numbers relate to QA-related issues that could not be included in the released versions of Patches 11 and 29.
- P29 numbers relate to issues that were deferred from Patch 29
- P30 numbers relate to issues that were reported after the release of Patch 11
- FUT 39 relates to routines that were modified to correct problems related to the processing of SSN from HL7 messages.
- FUT45 relates images as either 16 bits allocated/8 bits stored or 16 bits allocated/>8 bits stored.

## Specific changes

### **IR # 100 Do not display password when connecting to routing share**

Routine MAGDBRTA5 displayed a password when connecting to the remote disk-share to which image files are to be copied. The program was modified to display the text “--password--” rather than the actual value.

### **IR # 101 Evaluator uses ^TMP instead of ^XTMP for semaphore information**

Routines MAGBRTE4 and the remote procedure calls in MAGDRPC5 and MAGDRPC6 communicate through a temporary global variable. Since TaskMan is often running on a different Central Processor Unit (CPU) than the Remote Procedure Call (RPC) handlers, the temporary data needs to be stored in ^XTMP rather than ^TMP. The routines were modified accordingly.

### **IR # 102 <UNDEF>RADLKUP+80^MAGDRPC3**

When retrieving “old” information for Radiology cases, there are cases that do not contain information about the modality(ies) that may have been used to perform the study. The code in MAGDRPC3 was modified to check that such information exists before attempting to access the data in question.

### **IR # 103 Broker API sometimes transmits too many actual parameters**

Routine MAGM2VCU builds the parameter array that is transmitted for the various remote procedure calls. Under normal circumstances, the code in MAGM2VC will clean up the parameter information after completion of an RPC invocation.

When an error occurs in the processing of the RPC, the parameter information may not be cleaned up. Routine MAGM2VCU was modified to always properly initialize the parameter array in MAGRPCP ("PARAMS").

### **IR # 104 Install program aborts when spaces occur in path name**

The installation program was modified to include quote-characters around the name of the install-executable program in the batch-file that is generated when the installation is started.

### **IR # 105 Do not issue fatal error on attempt to delete non-existent file**

Routine MAGDIR71 attempts to delete a temporary file when rolling back a failed image. When image processing failed because the DICOM Gateway had no privileges to store the temporary files in the first place, the attempt to delete the file will return a "file not found" status code. In this case, "successful delete" and "file not found" can be treated as equivalent. The code was modified accordingly.

### **IR # 107 Load-Balanced image files are not transmitted**

Routine MAGBRTE5 passed the wrong local variable to the procedure that enters the files into the transmission queue. The typo was corrected. In an addition, a log-message was added in MAGBRTE5 to confirm entering route-balanced entries into the transmission queue.

### **IR # 074 Error Trap Not Terminating**

In Patch 11 a new method of switching devices was introduced. This effort completes the effort.

### **QA # 001 Remove obsolete data dictionaries**

The following VISTA Imaging 3.0 FileMan files are obsolete and removed during Patch 30's KID installation:

<u>File#:</u>	<u>File Name:</u>
2006.79	DICOM ROUTINE COPY
2006.592	DICOM UNDEFINED MODALITIES
2006.593	DICOM INCOMPLETE IMAGE

**QA # 003 RPC definitions not always consistent with actual code**

The definitions of the Remote Procedures that are stored in ^XWB (8994,...) are not always consistent with the code in the routines. Where discrepancies occurred, the code and the definition were brought in synch. Changes were made for this purpose to:

EVALLOG^MAGDRPC6 (MAG DICOM ROUTE EVAL LOG)  
additional parameter

HIGHHL7^MAGDRPC8 (MAG DICOM GET HIGHEST HL7)  
Remove dummy parameter

VALIMGT^MAGDRPC8 (MAG DICOM GET IMAGING TYPES)  
Remove dummy parameter

MAGDSTAT (call to MAG DICOM TEXT AUDIT GET)  
additional parameter

MAGBRTP1 (call to MAG DICOM ROUTE EVAL LOG)  
additional parameter

MAG DICOM GET RAD RPT (definition updated)

MAG DICOM ROUTE EVAL LOG (definition updated)

**P30#01 Change the name of the abstract maker to be consistent with the rest of imaging**

In patch 11, one of the utilities was identified as the "thumbnail maker". In this patch this utility program is renamed to "abstract maker".

**IR # 109 Vertical Bar in patient name confuses Process Image****RPCP30#29 Empty subscript error in MAGDIR81**

Two sites have reported an error where the "Image Processing" RPC runs into an error with the code MULTFRAM+4^MAGDIR81:1, %DSM-E-NULLSUBSCR, Null subscript. This error has been reported in a number of different ways.

The patient name contained a vertical bar ("|"). This is the delimiter for the RPC message. The value of MAGIEN was off because it came after the patient name and was being read from a different piece. The gateway routine ^MAGDIR6B was modified to remove all occurrences of the vertical bar ("|") from all character string variables obtained from the DICOM header.

**IR # 110 The name of the C-Store icon file is misspelled**

The routine MAGDMFIC creates a batch file to create the icons for the C-Store processes. The spelling of the name of the icon file was corrected to be MAGCstore.ico.

**IR # 111 There is vestigial code that may display a password**

Routine MAGDMFB contained code to initialize a number of DICOM Gateway parameters. This code has become obsolete with the introduction of routine MAGDLOGI. The obsolete code was removed.

**P30#02 Routine MAGDEXC3 is still part of the code, as ACR/NEMA is no longer supported, it should no longer be called**

The routine MAGDEXC3 was removed, as was the code in MAGDMENA that called it. The label in MAGDMENO was changed to call ENTRY^MAGDTCP directly.

**P30#03 The install program should always register comctl32.ocx (whether or not it is already present on the target system)**

The install batch procedure (MAG\_Setup.bat) was modified so that it now always registers the file %SystemRoot%\system32\comctl32.ocx.

**P30#04 The install program should also create telnet-icons for the Routing-related menu options**

The install program (MAG\_Install.exe) was modified so that it now creates the following additional directory and icons linked to telnet-sessions:

- X:\DICOM\Vista DICOM Gateway\DICOM Routing Gateway
  - Start rule evaluator (3-3)
  - Start transmitter (3-1)

**P30#06 Issue with routing rules containing a date/time valued parameter.**

Routine MAGBRTE4 referenced the parameter array omitting the subscript "VA" in RULE (RULE,"CONDITION", C,"VA", X). The missing subscript was inserted.

**P30#14 <UNDEF>FINDFILE+35^MAGFILEB:1, (variable MAGREF)**

The code at IMAGE^MAGDRPC2 asked for the name of the "abstract" file by passing the value "ABS" instead of "ABSTRACT". The typo was corrected.

**P30#15 "Empty" values in arrays returned from RPCs are ignored**

Routine MAGM2VCU ignored empty lines while reading the data-stream from VISTA to the DICOM Gateway. In some cases, empty lines represent array elements with an empty string as their value. The routine has been modified to recognize "empty" values.

**P30#16 When a site has many sub-locations, the list with choices scrolls off the screen**

Routine MAGDMFB offers the end-user a choice for the "location" of the DICOM Gateway based on the list of sub-locations at the site. When there are "many" sub-

locations, the list scrolls off the display. The routine has been modified to display the sub-locations 10 at a time, and offer the end-user the option to make a selection when the desired sub-location has been displayed.

**P29#1 Typo in name of variable causes line-item to be omitted**

In routine MAGQE1, the name of local variable BPWS was misspelled as BPV, causing the line item starting with BP VERS NUM DATE to be omitted from the mail-message. The typo was corrected.

**P30#17 In menu option 4-2-2 (Update Gateway Configuration Parameter) some of the help-texts refers to 4-1-6, and should be 4-2-10 (Validate Access/Verify Codes for Modality Worklist).**

Routine MAGDMFBE had the erroneous reference in it (twice). The typo was corrected.

**P29#2 Limit versions of DICOM Gateways to those being used over the past 30 days**

Routine MAGQE1 was modified to use "today minus 30 days" as the start-date for scanning versions of DICOM Gateways.

**P29#4 When traversing a FileMan table, loop across all numeric values**

In MAGQST, the quit-criterion was changed from INDX'?!N.N to 'INDX.

**P30#18 No icon is generated for "Start all DICOM Gateway functions"**

The directory where the icons for "All Users" are stored is different in the various Windows™ Operating Systems. Routine MAGDMFIC was modified to recognize the difference between the operating systems, and generate the icons in the appropriate directory.

**P30#19 <UNDEF>CLIENT+25^MAGDGLC**

All RPCs for the DICOM Gateway are programmed to always return at least a status code. Routine MAGDGLC was "fool-proofed" to ensure that a status code is always present.

**P30#20 MSM cannot handle TCP/IP-address string > 30 characters**

Routine MAGDMFBE was modified to warn the end-user when an attempt is made to enter a TCP/IP address that contains more than 30 characters.

**P30#22 RPC error when no valid entries in SCU\_List.dic**

When the master file SCU\_List.dic contains no valid entries at all, the routine MAGDMFBS ran into an error. The routine was modified to present a more user-friendly warning in that case.

**P30#24 Error message “Cannot establish identity of sending institution” when attempting to start Routing Transmitter**

The code for “consolidated” sited did not obtain a list of valid destination before asking the end-user which origin to use for the transmitter to be started. Routine MAGBRTA4 was modified to obtain this list before asking any questions.

**P30#25 <SBSCR>PASS1+33^MAGDMFB3**

Routine MAGDMFB3 presents an appropriate error message when an entry has a DICOM tag that is not in the element dictionary. The routine was modified to quit processing the current line item when such an error is reported.

**Note:** errors of this kind only occur when unauthorized modifications are made to the master file Template.dic.

**P30#26 Support organization received e-mail messages from postmaster@unknown.va.gov**

Routine MAGDMENU was modified to refuse access to menu options that may cause e-mail to be sent when the “domain” of the site has not yet been defined. A warning message will appear that encourages the end-user to run menu option 4-2-2 (Update Gateway Configuration Parameters) first.

**P30#09 <UNDEF>MISMATCH+4^MAGDIRVE**

Routine MAGDIRVE was modified to be more graceful about situations where images have been deleted.

**P30#11 Should the login program continue to display any differences between VISTA and DICOM Gateway in terms of which patches are loaded.**

The routine MAGDLOGN was modified so that it does not call DCMVER^MAGDVRSN anymore.

Also, the code in the RPC that obtains information about installed patches (IMGVER^MAGDRPC2, MAG DICOM GET VERSION) was “fool-proofed” to ignore entries that contain invalid or incomplete information.

**P30#27 A warning needs to be issued when Routing is configured to be active, but is not being used.**

Routine MAGDIR82 was changed to produce the warning message. A supporting function was added to MAGDRPC2, and the RPCs at EVALLOG^MAGDRPC6 and XMIT^MAGDRPC5 were modified to log the timestamps indicating when routing was active most recently.

Two new fields were added to file IMAGING SITE PARAMETER (#2006.1) to store these time-stamps.

**P30#21 A warning needs to be issued when the login program cannot complete because of an error on the VISTA side during login.**

We have seen a number of sites that have made changes to the Kernel Login software.

These changes caused errors while attempting to log in. Since the client-software did not expect having to report MUMPS error in the Kernel software, these errors never became visible to the end-user.

Once the sites removed their modifications, the software ran without problems.

Routine MAGM2VC has been modified to report any errors that may happen on the VISTA side during login.

**P30#28 VISTA may time out while waiting for completion of a HL7 message.**

The time-out value in routine MAGDHRS1 that indicates how long a VISTA system is supposed to wait for a HL7 message to become "complete" was set to 30 seconds. We noticed that in Phoenix, this was not long enough. The value was increased to 200 seconds.

**IR # 046 Patient Demographics**

When executing a Modality Worklist Query test, the DICOM Gateway displays the results of the query. Since the DICOM Gateway could no longer directly access the patient demographic information of VISTA, some information in this display showed up as "unknown".

The code in routine MAGDFND3 was modified to include the internal entry number of the patient in the DICOM stream that is transmitted. The code in routine MAGDWLU3 was modified to receive this value and use it, if the end-user is logged in with credentials to call RPCs, to query VISTA for the demographic information.

**P30#30 Missing parameter in RPC Call (MAG DICOM TEXT AUDIT GET).**

In routine MAGDSTAT a parameter was missing in the call to the RPC MAG DICOM TEXT AUDIT GET). The missing parameter was inserted.

**P30#31 Line Feed Missing in MAGDWLP2**

In routine MAGDWLP2 a line-feed was added following the display of the page-header for the final statistics page.

**P30#32 M2M Broker disruption during Exam Complete processing.**

It appears that MSM "clobbers" open TCP/IP sockets when a new port is opened in "listener" mode. To work-around this issue, a modification was made to TCPOPEN^MAGOSTCP so that no further attempts will be made to use any "clobbered" socket. In addition, routine MAGDAUD2 was modified to anticipate this situation, and no M2M Broker socket is left open when the next Exam Complete Listener is started.

In routine MAGDEXC1 and MAGDQUE4 a correction was made to repair a minor deviation from the DICOM standard for the communication of Exam Complete messages.

**P30#39 SSN may occur in several possible HL7 segments**

Routine MAGDHRC3 was modified to search for the SSN in several other HL7 segments.

**P30#07: Patch 11 was supposed to contain 2 security keys. The KIDS package for patch 11 did not contain these keys.**

The following security keys are included in Patch 30:

MAGJ DEMAND ROUTE DICOM

MAGDFIX ALL

**IR#108: Some abstracts cannot be displayed using DICOM Viewer.**

The DICOM Viewer was enhanced to support several "special case" images.

**P30#34 FileMan cannot display field 36 of file 2006.575.**

The data dictionary of file # 2006.575 was modified to reflect the datatype for field #36 correctly.

**P30#33 Routing does not auto-purge**

Routines MAGBRTA4 and MAGBRTA5 were corrected to handle of automatic purging as expected.

**P30#36 Process Text Messages does not automatically restart when VistA is restarted**

The error handling for both Process Text Messages and Process DICOM Images was modified to respond more gracefully when a VistA system is restarted.

**P30#38 Rule evaluator crashes as result of typo in Routing Rule**

Routines MAGBRTE4 and MAGBRTE5 were modified to respond more gracefully when there are typos in routing rules.

**P30#40 Tilde in value for RACE**

The software for Modality Worklist query was modified to pick up the value for RACE from a different HL7 field. The current field consistently contains a value that is appropriately formatted.



**P30#41 Imprecise value in Date of Birth**

The software for Modality Worklist query was modified to pick up the value for DATE\_OF\_BIRTH from a different HL7 field. The current field consistently contains a value that is appropriately formatted.

**P30#42 100% CPU usage when VistA aborts**

Routine MAGOSTCP was modified to recognize more indicators that signify that a connection with a VistA system has been lost.

**P30#45 <MODER> in DICOM Echo Request**

The code for DICOM Echo was modified to handle a failure to connect more gracefully.

**P30#46 Set HL7 pointer to a value for which no entry exists**

When an end-user enters an absolute pointer value, the code now checks whether the specified value actually exists. If there is no data element for the specified pointer value, and there are data-elements with higher pointer values, the software will automatically skip to the next higher value.

The code in routine MAGDFND3 was modified to properly handle values for RACE and DAY\_OF\_BIRTH, specifically when the birth date is an imprecise one.

**P30#50 MultiFrame Image cannot be processed**

Routines MAGDIR6, MAGDIR6B, MAGDIR6C, MAGDIR6G and MAGDIR81 were modified to correctly handle multiframe images.

**P30#51 Modality varies number of bits per pixel**

Routine MAGDIR7C was modified to handle modalities that are able to transmit different images with a different number of bits per pixel.

**P30#52 FileMan shows only first 15 candidates**

Routine MAGDRA1 was modified to invoke FileMan with parameters such that more than one screenful of candidates will be shown.

**FUT 45 – Combination 8/16 bit images from instruments**

Some modalities send images as either 16 bits allocated/8 bits stored or 16 bits allocated/>8 bits stored. Additionally, some of the images contain Largest Pixel Size value. Through an algorithm, the DICOM Gateway will determine the best Bits Stored value to process the image. Part of this algorithm assumes if the bits stored are equal to or less than 8, then there are only 8 bits allocated and processes it as such. This is an error in the algorithm. Overriding this value in the modality.dic does not work, since that would assume that the same modality always sends data in the same format, and the purpose of this modification is to be resilient enough to handle the variation in the format. The user cannot pre-define bits stored when it changes with every image. There are two

possible results due to this problem. First, the Image Process window will error stating pixel dataset is of the incorrect size. Second, The image will process successfully, but the image appears crosshatched. Both resolutions are unacceptable. Changed logic to evaluate if Bits Allocated is 16 and Bits Stored is 8. If this specific condition is met, change value of Bits Stored to 9. Using a Bits Stored of 9 forces rest of the code to treat the image pixel data as 2 bytes per pixel. The Modality.dic file can no longer have the "b" parameter set in this file.

Routine, MAGDIR2C and MAGDIR7C were modified in FUT45.

## Patch 30 Content

This patch includes the following files:

MAG30P30.ZIP – Download the file from the Imaging FTP folder. This file contains the entire patch 30 files required for an automatic installation on the Imaging DICOM gateways.

MAG30P30.KID – KIDS (Kernel Installation & Distribution System) package to be installed on the **VISTA** hospital database.

The following is the documentation available for this patch:

MAG3\_OP30\_Patch\_Description.pdf – This document

DICOMIG.pdf – Imaging DICOM Gateway Installation Guide.

MAG3\_IMGerrormsg – Imaging System Error Message Guide. This guide provides detail information on possible error messages for the Imaging systems.

MAG3\_OP30\_DICOMig\_4\_7 – Change page in section 4.7 of the DICOM Installation guide.

### Security Keys:

The following security keys will be installed during the KIDS installation:

MAGDFIX ALL - This security key allows the holder to perform DICOM CORRECT functions on any entry in the DICOM FAILED IMAGE File (#2006.575), whether or not that entry was captured through the DICOM Gateway of the user's site.

MAGJ DEMAND ROUTE DICOM - Allow the user to queue DICOM images to be routed on demand. This functionality exists in the VistaRad Exam List, and only for sites that have been configured for routing of DICOM images.

### Remote Procedure Calls:

The following RPC entries will be installed during the KIDS installation:

MAG DICOM ROUTE EVAL LOG

MAG DICOM GET RAD RPT INFO  
MAG DICOM ROUTE EVAL START

### Data Dictionaries:

The following files will be installed during the KIDS installation:

IMAGING SITE PARAMETERS (#2006.1) - Partial data dictionary – two new fields will be added. New fields: LAST ROUTING ACTIVITY (#126) and LAST ROUTING CHECK (#127).

DICOM FAILED IMAGES (#2006.575) – Partial data dictionary – Field GATEWAY PLACE (#36) is defined as a pointer to the INSTITUTION (#4).

### Routines:

#### VistA Routines

New and modified routines for the **VISTA** Imaging Host are listed below. For each routine, the second line will contain the following information. Please note the before checksum may differ if an Imaging Field Unit Test has been installed.

<tab>\*\*[patch list]\*\*;September-16-2004

Routine Name	Before Patch	After Patch	Patch List
=====	=====	=====	=====
MAG7RS	11923364	12193599	**11,40,30**
MAGBRTE4	14663489	15019760	**11,30**
MAGBRTE5	12248946	12363938	**11,30**
MAGBRTL	6114349	5665322	**9,11,30**
MAGBRTUT	6312859	6805146	**9,11,30**
MAGDCCS2	6323959	6363543	**10,11,30**
MAGDHL7	7588848	7399823	**11,30**
MAGDHRS1	4952354	5025884	**11,30**
MAGDIR81	13946127	14282136	**11,30**
MAGDIR82	7689405	13464369	**11,30**
MAGDIR83	7543877	7606355	**11,30**
MAGDIR85	2900846	2914037	**11,30**
MAGDIR9A	10819306	10789655	**11,30**
MAGDIRVE	15724185	15732775	**11,30**
MAGDLB1	12114206	11911075	**11,30**
MAGDRA1	7837939	7842219	**10,11,30**
MAGDRCU1	8444320	8485773	**10,30**
MAGDRPC1	8949355	8395133	**11,30**
MAGDRPC2	5509304	12950501	**11,30**
MAGDRPC3	11531835	11631756	**11,30**
MAGDRPC4	15375596	15201662	**11,30**
MAGDRPC5	15154889	14221287	**11,30**
MAGDRPC6	9417357	11175169	**11,30**
MAGDRPC8	10609976	10596480	**11,30**
MAGIPS30	N/A	4783130	**30**
MAGQE1	4787344	4871610	**27,29,30**
MAGQE3	6460721	15528150	**27,29,30**
MAGQE4	15683461	5670112	**27,29,30**

MAGQE5	10424133	10174225	**27,29,8,30**
MAGQST	4955242	4967326	**7,29,30**

**PLEASE NOTE: \*Routine MAGDRCU1 was part of Imaging patch MAG\*3\*10 and resided on the DICOM Gateways. For this patch, the routine now resides on the Vista server but previous checksum cannot be verified on the Vista server.**

Routine MAGIPS30 is an installation routine that will be automatic deleted after the KIDs installation.

### DICOM Gateway Routines

New and modified routines for the Imaging DICOM Gateway are listed below. For each routine, the second line will contain the following information. Please note the before checksum may differ if an Imaging Field Unit Test has been installed.

<tab>\*\*[patch list]\*\*;September 16-2004

Routine Name	Before Patch	After Patch	Patch List
=====	=====	=====	=====
MAGBRTA4	14170744	14649218	**11,30**
MAGBRTA5	10117341	10316626	**11,30**
MAGBRTB1	14067366	13923470	**9,30**
MAGBRTB2	14167668	14272169	**9,30**
MAGBRTB4	7633359	8554349	**9,11,30**
MAGBRTB1	10028894	10101485	**11,30**
MAGDACP1	13186954	13082461	**21,11,30**
MAGDACP2	N/A	3487018	**30**
MAGDACP3	N/A	12867430	**30**
MAGDACR1	N/A	9875275	**30**
MAGDACR2	N/A	6084279	**30**
MAGDACU	4307948	4307948	**21,30**
MAGDACU0	N/A	5618533	**30**
MAGDACU1	N/A	9527120	**30**
MAGDACU2	N/A	3804643	**30**
MAGDACU3	N/A	4611276	**30**
MAGDACW1	12160791	12093531	**10,30**
MAGDACW2	7796943	7747630	**10,30**
MAGDAUD2	5548551	5645586	**10,11,30**
MAGDDB	12319624	12858437	**9,10,11,30**
MAGDCST1	14174847	14268531	**10,30**
MAGDCST4	9433207	9397031	**10,11,30**
MAGDCST6	7959529	7972238	**10,11,30**
MAGDDR1	11808648	11902614	**10,11,30**
MAGDDR2	10381430	10472534	**10,11,30**
MAGDDR7	6813992	6884620	**10,30**
MAGDDW2	11408048	11362260	**10,30**
MAGDDW3	10931654	10875899	**10,30**
MAGDECHO	N/A	4696538	**30**
MAGDEXC1	10961704	11440704	**1,11,30**
MAGDFCNS	12940739	12965667	**9,10,11,30**
MAGDFND0	7247465	7262570	**10,30**
MAGDFND2	17188374	17417656	**1,10,30**
MAGDFND3	17538891	17601673	**10,30**
MAGDFND4	6061853	7174636	**10,11,30**
MAGDFND5	5324321	5325754	**10,30**
MAGDGEX1	13766650	13949343	**11,30**
MAGDGLC	10362984	10171619	**11,30**

MAGDHR5	8703017	2786124	**10,30**
MAGDHRC	18254427	18420594	**11,30**
MAGDHRC1	9291553	9898870	**11,30**
MAGDHRC3	9612773	11391010	**11,30**
MAGDHRC5	13079659	14004866	**11,30**
MAGDIR4A	N/A	4209742	**30**
MAGDIR5	4353316	4210664	**10,30**
MAGDIR6	15962747	16677401	**11,30**
MAGDIR6B	6460724	6878419	**11,30**
MAGDIR6C	8295947	9426495	**11,30**
MAGDIR6F	8277718	8347373	**11,30**
MAGDIR6G	4586509	4792170	**11,30**
MAGDIR71	11260016	12548321	**11,30**
MAGDIR7C	16727193	16803028	**11,30**
MAGDIR7T	10534523	10465594	**11,30**
MAGDIW2A	8468744	8403351	**10,11,30**
MAGDIW3	6310840	6217985	**10,30**
MAGDIW3B	7222855	8675108	**11,30**
MAGDIW6	N/A	9843343	**30**
MAGDIWB1	12812254	13027381	**11,30**
MAGDIWB2	15543865	16164545	**11,30**
MAGDIWB5	16337608	17118029	**11,30**
MAGDIWBA	N/A	16175274	**30**
MAGDIWBB	N/A	13852886	**30**
MAGDIX	N/A	3522175	**30**
MAGDIX1	7560852	7585244	**10,30**
MAGDLOGN	16999773	17163970	**11,30**
MAGDMENA	13601343	13188023	**9,21,10,11,30**
MAGDMENO	11154418	11359000	**11,30**
MAGDMENU	11078116	11733936	**9,21,11,30**
MAGDMFB	9968431	7360763	**9,21,11,30**
MAGDMFB1	16170045	16235235	**9,21,11,30**
MAGDMFB2	10685026	10793627	**21,30**
MAGDMFB3	N/A	9584475	**30**
MAGDMFB4	N/A	6061587	**30**
MAGDMFB5	N/A	8114945	**30**
MAGDMFB6	N/A	7413233	**30**
MAGDMFB7	4512733	4426396	**10,30**
MAGDMFB9	7783334	7773766	**11,30**
MAGDMFBA	N/A	6836769	**30**
MAGDMFBE	12377346	13375198	**9,21,11,30**
MAGDMFBM	15920002	16099039	**9,10,11,30**
MAGDMFBP	7037084	6993972	**9,10,30**
MAGDMFBS	9776163	9865571	**9,10,11,30**
MAGDMFBW	11441368	11543013	**9,10,11,30**
MAGDMFIC	13807598	14573770	**10,11,30**
MAGDMLGV	12481598	12501289	**21,10,11,30**
MAGDMLOG	8499798	8463981	**9,10,30**
MAGDMMSG	10223832	10560186	**21,11,30**
MAGDQUE0	N/A	10190473	**30**
MAGDQUE1	N/A	8935641	**30**
MAGDQUE2	7694158	7674878	**11,30**
MAGDQUE3	N/A	7616843	**30**
MAGDQUE4	N/A	8631897	**30**
MAGDSTAT	13640096	13756724	**10,11,30**
MAGDSTRT	9895289	10354951	**21,11,30**
MAGDTCP	N/A	5690918	**30**
MAGDTCP1	N/A	3738659	**30**
MAGDTCP2	N/A	14682339	**30**
MAGDTCP3	N/A	8753692	**30**
MAGDTGA	4560567	4580712	**11,30**
MAGDTLOG	N/A	4356624	**30**
MAGDVRSN	3941242	6818937	**1,7,9,26,21,10,36,3,11,30**

MAGDWLP2	9088308	9093577	**11,30**
MAGDWLPB	9517806	9563777	**11,30**
MAGDWLU	5899072	5913249	**21,11,30**
MAGDWLU1	11927190	11951646	**21,10,30**
MAGDWLU2	10926242	10758618	**21,30**
MAGDWLU3	13837893	14223474	**21,10,11,30**
MAGM2VC	10195504	10697402	**11,30**
MAGM2VCU	13645911	13820422	**11,30**
MAGOSTCP	7829780	8036500	**11,30**

## Patch 30 Installation

Obtain the software from the Imaging FTP folder, the file is zipped and named MAG3\_OP30.ZIP; this may take several minutes to download and is dependent on the WAN activity.

Unzip the file on a local network directory where all gateways can access. Retrieve a copy of the KID file, MAG3\_OP30.KID; the file located in directory Patch\_30 once the MAG3\_OP30.ZIP file has been unzipped. The KID file can be installed with users on the system and will take less than 5 minutes. All DICOM Gateway activity should be stopped before updating the VistA server with this patch. VistA Imaging patch 11 and 40 are a required builds and must be installed prior installation of patch 30.

### Installing the KIDS Package

1. Access the Kernel Installation and Distribution System Menu [XPD MAIN].
2. Run the Installation option.
3. Load the KIDS file by performing the following steps.
  - a. Run the (1) Load a Distribution option to load the KIDS distribution.
  - b. When prompted, enter the path and file name (MAG3\_OP30.KID) of the Patch 30 KIDS file that you downloaded from the Imaging FTP server.
  - c. When prompted to continue with the load, enter YES. A Distribution OK! message will be displayed when the load is complete.
4. After you load the KIDS file, you may elect to use the following options.
  - a. Verify Checksums in Transport Global – run this option if you want to ensure the integrity of the routines in the patch.
  - b. Compare Transport Global to Current System – run this option if you want to view all changes that will be made when the patch is installed. All components (routines, options, and so on) in the patch will be compared.
  - c. Backup a Transport Global – run this option if you want to create a backup message of any routines exported with the patch. It will NOT back up any of the other changes.

5. After performing the load and any optional verification steps, install the KIDS file by performing the following steps:
  - a. Run the (6) Install Package(s) option.
  - b. When prompted for the install name, enter MAG\*3.0\*30.
  - c. Answer NO to the following prompts:

```

Want KIDS to Rebuild Menu Trees Upon Completion of Install? Yes//NO
Want KIDS to INHIBIT LOGONS during the install? No//NO
Want to DISABLE Scheduled Options, Menu Options, and Protocols? YES//NO

```

6. When installation is finished, an Install Complete message will be displayed.

## DICOM Gateway Installation

*Imaging Patch 30 must be installed on all of the Gateways and **VISTA** at the same time.*

Make certain that the installation procedure is executed while logged on to the Gateway as a LOCAL "Administrator".

To automatically install the software on each Gateway:

Unzip MAG3\_0P30.zip file on a local network directory where all gateways can access.

On the DICOM Gateway stop all telnet processes and shut down MSM. To shut down MSM locate the MSM console on the Gateway and at the UCI prompt type MGR:SSD.

```

22-JUL-04 6:46 PM

Max Partitions: 25      Current in Use: 9

JOB  UCI/VOL  ROUTINE  P-SIZE  STATUS  #-COMMANDS  DEVICES
NUM   NAME    NAME     CURR/MAX  TOTAL/INCR  OWNED
-----
1     * * *    M S M    * * *
4     MGR,IMA  MSERVER  0.7/500  TCP_IO    324/324    56c
7     MGR,IMA  MSERVER  0.7/500  TCP_IO    316/316    56c
8     MGR,IMA  MSERVER  1.0/500  TCP_IO    424/424    56cp(127.0.0.1)
9     MGR,IMA  MSERVER  0.7/500  TCP_IO    316/316    56c
11    MGR,IMA  %SS      3.3/500  Running   4218/0     1pc
19    DCM,DCM  MAGDCST2 4.3/500  TCP_IO    5148/5148  56c
20    DCM,DCM  MAGDCST2 4.4/500  TCP_IO    4991/4991  56c
21    DCM,DCM  MAGDCST2 4.4/500  TCP_IO    4987/4987  56c

p - Principal Device
c - Current Device

Total Buffers In System: 1024, Modified#=0
Disk Cache Efficiency: 99.9%

```

How long (in seconds) to wait for users to logoff <60>?

The above is an example of the output on a System Shut Down. Respond with a "0" (zero) to the "How long (in seconds) to wait for users to logoff?" prompt.

### **Installing on a new DICOM Gateway:**

Follow the instructions in the VistA Imaging DICOM Installation Guide. The document (MAG DICOMig.pdf) can be found in the Documents folder where patch 30 was unzipped.

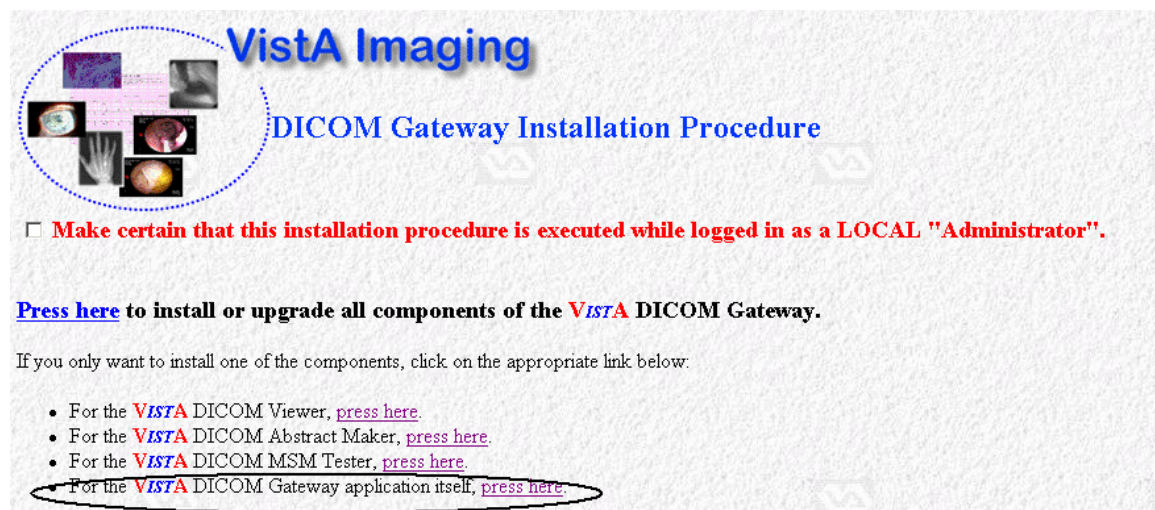
\*Note: An "initial installation" does not require that any previous patches are installed.

### **Updating Existing Workstation:**

If installing the patch on an existing DICOM Gateway follow these procedures.

Map the network location where the patch 30 artifacts were unzipped and double-click on the file named 'MAG\_Setup.html' to start the installation process. An HTML document will open.

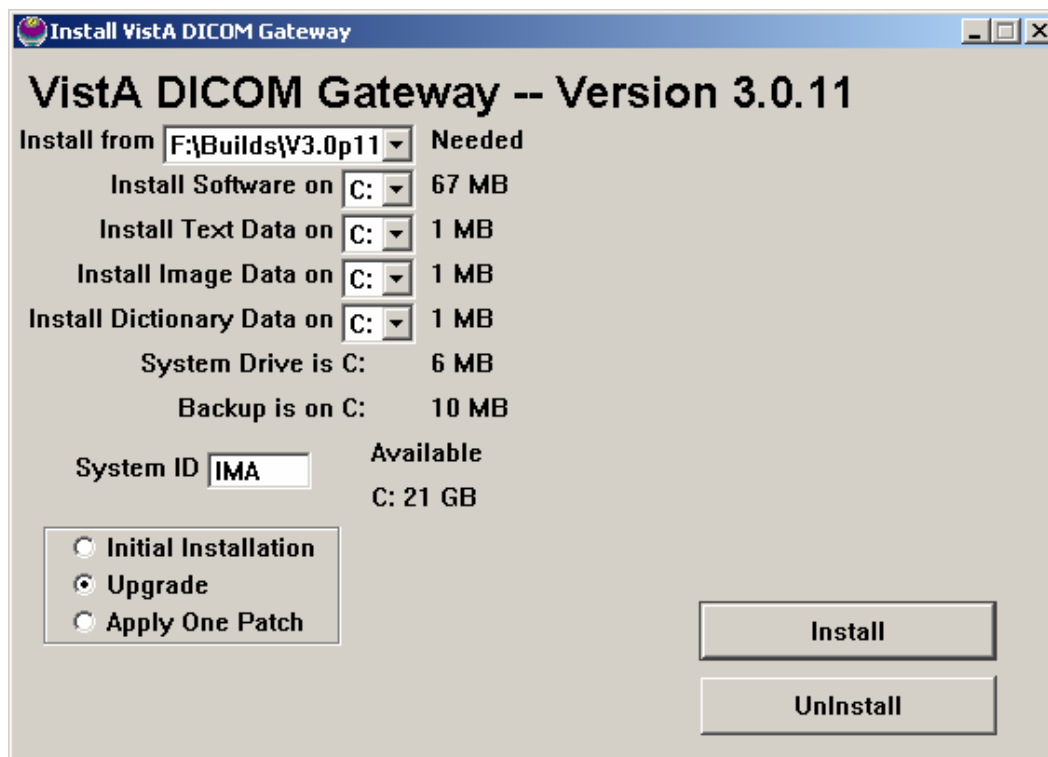
On Patch 30's MAG\_setup.html document, click on the following option to only update patch 30 routines on the DICOM Gateway. No other option needs to be selected/installed. Below is an example of the patch 30 HTML installation procedure.



Click on the circle item, "For the VistA DICOM Gateway application itself", to install patch 30 routines.

The following window will display.



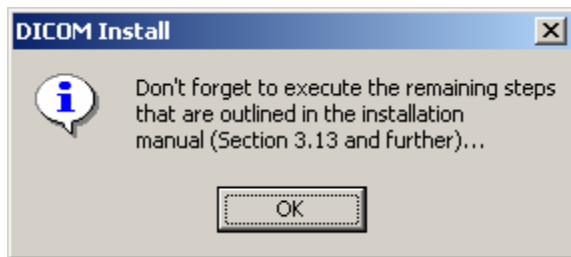


In the dialog-window for the installation of the **Vista** Imaging DICOM Gateway the end-user can modify the various boxes to correspond with the desired type of installation (a number of default values will already be filled in).

From the drop down list select the appropriate values:

- **Install From:** Other options in this drop-down list include any disks currently mounted on the current computer, as well as one special entry, which allow an installation “through the network”.
- **Install software on:** specify the name of the disk drive on which the MSM database is to be installed. The default value is **C:**.
- **Install Text Data on:** specify the name of the disk drive on which the DICOM data files are to be installed. The default value for these is **C:**.
- **Install Image Data on:** specify the name of the disk drive on which the DICOM Image files are to be installed. The default value for these is **C:**.
- **Install Dictionaries Data on:** specify the name of the disk drive on which the DICOM dictionaries are to be installed. This where the DICOM\DICT folder is located.
- **System ID:** specify the System ID for the Gateway being upgraded.
- **Upgrade** – Ensure that the Upgrade radio button is selected.

When the automated part of the installation process is completed, a window will pop up that reminds the installer to perform the manual steps. The section number in the Installation Guide will depend on the selected parameters.



Use Patch 30's HTML to check off the items executed.

**For both an upgrade and an initial installation:**

- ☐ **Do ^%LOGON**  
Login into **MGR:XXX**
- ☐ **Do MGR^ZMAGDGFN**
- ☐ **Do ^%LOGON** (on the DICOM Gateway)  
Login into **DCM:XXX**
- ☐ **Do ^MAGDMENU**  
Execute menu option 4-2-2, then 4-2-8 (**Update Gateway Configuration Parameters** and **Reinitialize All the DICOM Master Files**)
- ☐ Ready to build all of the DICOM Master Files? **Yes**
- ☐ System title .....
- ☐ Device letter for DICOM text directory .....
- ☐ Device letter for DICOM image directories .....
- ☐ Percentage of free disk space for image files .....
- ☐ Device letter for DICOM dictionary directory .....
- ☐ Number of communication channels .....
- ☐ Machine-ID .....
- ☐ Will this system be a DICOM Text Gateway? .....
- ☐ Send text to a commercial PACS, Mitra Broker, et cetera? .....
- ☐ Is a PACS going to transmit Exam Complete messages to **VISTA**? .....
- ☐ Kind of PACS is .....
- ☐ Will this system be a Modality Worklist Provider? .....
- ☐ Send CPT Modifiers? .....
- ☐ *For the other questions,  
give answers that are appropriate for your situation.*
- ☐ **Do ^MAGDMFIC**

Do you want to edit the 'HOSTS' file? Y// **YES**

Cut all text from "**add.tmp**", paste into "**Hosts**" (at the end of the file)



**Do ^%LOGON**

Login into **MGR:XXX**



**Do ^SYSGEN**

Option: **3** - Edit Configuration Parameters

Select Configuration: **DICOM**

Option: **8** - Tied Terminal Table

Tie all TCP/IP (class is D: Dynamic) ports to the DICOM login program  
(^MAGDLOGN)



**Halt**

To verify that the correct version has been installed use the menu option on the DICOM Gateway. The patch is the following:

```
4 - System Maintenance,  
  1 - System Operation,  
    4 - Display the Version of the Software.
```

The correct display is the following:

The correct version is:

This is "IMAGING 3.0" created on. September-30-2004

Installed patches:

Patch 10: 20-November-2003

Patch 11: 14-April-2004

Patch 30: September-30-2004

The DICOM Gateway is now ready to start processing. Start all normal procedures on the updated Gateway.

**Imaging Patch 30 must be installed on all of the Gateways and **VISTA** at the same time.**